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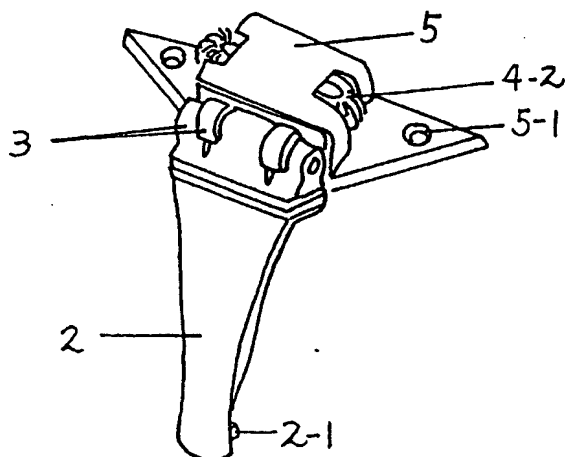
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ance Notes on Codes and Abbreviations" appearing at the begin-  
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(54) Title: SUNGLASSES HOLDER WITH DETACHABLE CLIP-DEVICE



(57) Abstract: Sunglass holder with built-in clip for attach-  
ment and detachment can be used on industrial sites besides  
sports type of hat (cap) by being conjoined with the sunglass  
and goggle of military helmet. When fishing at the desert where  
wind of sand is rampant, river or ocean, it protects the eyes from  
the sand and ultraviolet rays from sunlight. Towards this end, it  
is possible to use by conjoining hat and sunglass lens, and the  
product is invented to apply in diverse areas such as sunvisor,  
cowboy hat beret, knit wool hat, hat and hair band for jogging  
etc.

WO 2004/006001 A1

## **SUNGLASSES HOLDER WITH DETACHABLE CLIP-DEVICE**

### **BACKGROUND OF THE INVENTION**

#### **Field of the Invention:**

This invention relates to sunglass holder with built-in clip for attachment and  
5 detachment (Figure 1). In more detail, this invention relates to the sunglass holder that  
can use hat(6) and sunglass lens(7) by changing them in diverse ways. This invention  
has built-in clip that enables detachment and attachment of body of device that plays  
the role of tightening(5) where groove in the body of device that plays the role of  
tightening(5-1) where male screw for conjoining part is conjoined so that body of  
10 connecting part(2), where groove in the connecting part(2-1) that is conjoined with the  
one side of center's upper part of the sunglass lens that protects the eyes against the  
ultraviolet rays of the sunlight is conjoined with one side of the front part's lower part  
of sports type of hat (cap)'s front visor, and body of connecting part from the body of  
device that plays the role of tightening.

#### **Description of the Prior Art:**

15 In general, sunglass blocks the ultraviolet rays from sunlight and is used for  
fashion, and it is comprised of sunglass lens, frame and legs. This type of sunglass  
normally makes user's nose bridge and ears sweaty. Thus, when used continuously, it  
causes physical inconvenience due to the weight of the sunglass.

Moreover, this type of sunglass usually offers hat and sunglass separately when used with hat. Thus, it is difficult to carry and store, and it is economically non-viable for user has to purchase hat and sunglass separately.

5 Furthermore, existing sun cap that is fixed onto the hat limits the taste of user who wants to choose diverse hats and sunglass lens.

Accordingly, this invention is made to enable user to select diverse hats and sunglasses according to taste. It can be conjoined and separated easily. And sunglass frame and legs are not necessary, which in turn eliminates physical  
10 inconvenience for the user. At the same time, carrying and storing it is made easy. Moreover, there is no need to purchase hat and sunglass separately. Thus, this invention reduces economic burden that otherwise would be incurred by sunglass frame and legs.

If and when sunglass is not used while using sunglass holder that is conjoined  
15 onto the hat, lever for the connection of female screw(3-1), formed between body of connecting part(2) and long hole needed for clipping(4), and saw tooth wheel type of gear(3-3), formed at the outer wall of the steel that connects female screw are mutually interlocked to move body of connecting part up or down to enable control of angle. In particular, male screw shaped anchor(4-1), formed on long hole needed for  
20 clipping(4), stopper(4-2), formed on body of device that plays the role of tightening(5), and stopper, formed on the body of device that plays the role of tightening by built-in

clip that detaches and attaches based on stopper groove(4-3) are pressed to enable attachment and detachment of body of connecting part, conjoined with sunglass lens from body of device that plays the role of tightening, conjoined with hat. Accordingly, sunglass may be stored separately or conjoined to the new body of device that plays the role of tightening that is attached on the upper part of the hat's exterior. As such, carrying and storing are made easy to use as fashionable sunglass lens.

### SUMMARY OF THE INVENTION

This invention relates to sunglass holder with built-in clip for attachment and detachment (Figure 1). In more detail, this invention relates to the sunglass holder that can use hat(6) and sunglass lens(7) by changing them in diverse ways. This invention has built-in clip that enables detachment and attachment of body of device that plays the role of tightening(5) where groove in the body of device that plays the role of tightening(5-1) where male screw for conjoining part is conjoined so that body of connecting part(2), where groove in the connecting part(2-1) that is conjoined with the one side of center's upper part of the sunglass lens that protects the eyes against the ultraviolet rays of the sunlight is conjoined with one side of the front part's lower part of sports type of hat (cap)'s front visor, and body of connecting part from the body of device that plays the role of tightening.

### BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1(A)(B) is the perspective drawing that shows sunglass holder (A) with built-in clip for attachment and detachment according to this invention, and the view of sunglass holder(B), in which body of device that plays the role of tightening and long hole needed for clipping are separated with clip for attachment and detachment.

5 Figure 2 is the perspective drawing that shows the saw tooth type of gear that is formed at the outer wall of the steel that connects female screw.

Figure 3(A)(B) is the plane surface view (A) and side view (B) in which the clip is built into the sunglass holder in accordance to this invention.

10 Figure 4(A)(B) is the plane surface view (A) and side view (B) in which the clip is built into the sunglass holder is separated from the sunglass older in accordance to this invention.

Figure 5 is the perspective drawing that shows the transformation of body of device that plays the role of tightening attached on the upper part of the hat's exterior by separating only the body of connecting part, conjoined with sunglass lens from the body of device that plays the role of tightening of sunglass holder, and the look in which the body of device that plays the role of tightening of sunglass holder is attached on the upper part of hat's exterior in accordance to this invention.

Figure 6 is the perspective drawing that shows the conjoining of the hat and sunglass lens into one by using sunglass holder with clip for attachment and detachment in accordance to this invention. Figure 6(A) is the view in which user uses the sunglass lens in order to protect the eyes from the ultraviolet rays from

sunlight when the user is wearing a hat. Figure 6(B) is the perspective drawing that shows that user is not using sunglass lens when wearing a hat by putting up the sunglass lens to the top.

Figure 7(A)(B) is the perspective drawing that shows single unit type of sunglass holder without attachment and detachment function.

Figure 8(A)(B)(C) is the view in which the sunglass holder is applied onto the sunvisor(A), knit wool hat(B) and hair band for jogging(C).

#### [Explanation of Symbols Related to Key Parts of the Figure]

10

2 body of connecting part

2-1 groove in the connecting part

3 steel that connects female screw  
screw

3-1 lever for the connection of female

3-2 connection pin

3-3 saw tooth wheel type of gear

15 4 long hole needed for clipping

4-1 male screw shaped anchor

4-2 stopper

4-3 stopper groove

5 body of device that plays the role of tightening 5-1 groove in the body of device that plays the role of tightening

5-2 male screw for conjoining part 6 hat 7 sunglass lens

20

#### DETAILED DESCRIPTION

The purpose of this invention is to conjoin hat and sunglass that the people enjoy wearing into one. At the same time, they can be separated, and another hat or sunglass lens maybe selected to conjoin and separate.

This invention removes existing sunglass frame and legs. Accordingly, it prevents the nose bridge and ears of the user from becoming sweaty. Moreover, it eliminates physical inconvenience caused by the weight of sunglass. By conjoining hat and sunglass lens into one, it enables convenience of use. Furthermore, carrying and storing it is made easy, which in turn reduces the cost of having to purchase sunglass frame and legs.

Furthermore, sunglass holder (Figure 1) of this invention is formed with body of connecting part, steel that connects female screw(3) in between, lever for the connection of female screw(3-1), connection pin(3-2), and saw tooth wheel type of gear(3-3) formed at the outside wall of steel that connects female screw to conjoin body of connecting part and body of device that plays the role of tightening. Up and down angle adjustment of body of connecting part, conjoined with sunglass lens is enabled from the body of device that plays the role of tightening that is conjoined with hat. Accordingly, it is made to operate conveniently, whether the user uses or does not use sunglass lens.

In particular, clip that enables attachment and detachment is built into sunglass holder. Thus, attachment and detachment of body of connecting part, conjoined with sunglass lens from/to body of device that plays the role of tightening is enabled. Thus,

use of either the hat or the sunglass lens is made convenient since they separate. An advantage is the ability to select diverse forms of sunglass lens. Moreover, body of connecting part of sunglass lens that is already separated is conjoined with new body of device that plays the role of tightening that is attached on the outside of the hat to enable carrying and storing it.

This product was invented to enable convenience in carrying and using by conjoining hat and sunglass lens into one.

#### [Composition of the Invention]

Sunglass holder with built-in clip for attachment and detachment (Figure 1) according to this invention is comprised of the following; body of connecting part where groove in the connecting part(2-1) is formed to conjoin with one side of center's upper part of sunglass lens(2), body of device that plays the role of tightening(5) where groove in the body of device that plays the role of tightening(5-1) is formed to conjoin with one side of the frontal part's lower part of hat's front visor,

Steel that connects female screw(3) formed in a way that body of connecting part and long hole needed for clipping connect, lever for the connection of female screw(3-1) that enables gyration and up and down angle control of the above mentioned body of connecting part from the body of device that plays the role of tightening(5) by being inserted to the inside of steel that connects female screw, connection pin(3-2), saw tooth wheel type of gear(3-3), formed at the outer wall of the steel that connects

female screw, and clip for attachment and detachment and where stopper(4-2), stopper groove(4-3) and male screw shaped anchor(4-1) are made to enable conjoining and separation of long hole needed for clipping(4) and body of device that plays the role of tightening.

5           Figure 1(A) is the perspective drawing that shows the sunglass holder with built-in clip for attachment and detachment (Figure 1) according to this invention.

Figure 1(B) is the perspective drawing that shows the separated state of body of connecting part that is connected to the body of device that plays the role of tightening and long hole needed for clipping in accordance to this invention.

10           The following is the explanation on ideal actual example according to the attached figures.

To conjoin sunglass lens that suits user's taste, sunglass holder (Figure 1) forms body of connecting part(2) at the lower part of the sunglass holder, but at the body of connecting part's lower part, groove in the connecting part(2-1) is made so that  
15 it can be conjoined with the groove that is formed on the one side of center's upper part of sunglass lens. Conjoining is enabled by using male screw bolt. According to the fashion of the sunglass lens, one side of center's upper part of sunglass lens can be made into a form that is fit into the lower part groove of the body of connecting part or into a form that is fit by making frame at the body of connecting part's lower part.

20           At the upper part of the body of connecting part and the lower part of the long hole needed for clipping(4) pertaining to this sunglass holder (Figure 1), steel that

connects female screw(3) is formed to enable conjoining and gyration. This conjoins and gyrates body of connecting part and long hole needed for clipping based on interlinking.

At the inside of the steel that connects female screw(3), saw tooth wheels are mutual interlinked and gyrate. Lever for the connection of female screw(3-1) is installed to enable up and down angle adjustment. User can adjust angle up and down to adjust sunglass lens that is conjoined at the lower part of the sunglass to the eyes of the user. Furthermore, connection pin(3-2) that replaces the lever for the connection of female screw(3-1) at the inside of steel that connects female screw is inserted to conjoin upper part of the body for connecting part and long hole needed for the lower part of the clipping. At the outer wall of the steel that connects female screw, saw tooth type of gear(3-3) is formed to make into a form that facilitates angle adjustment while steel that connects female screw gyrates in an interlinked manner.

To conjoin with hat that suits user taste, sunglass holder (Figure 1) forms body of device that plays the role of tightening(5) at the upper part of the sunglass holder. This body of device that plays the role of tightening(5) includes groove in the body of device that plays the role of tightening(5-1) of the screw groove form so that male screw for conjoining part(5-2) can go through. Groove in the body of device that plays the role of tightening(5-1) area maintains the weight of entire sunglass holder. It is possible to set to the corner part of both sides in order to maintain balance. In particular, one side of the frontal part's lower part of the hat's front visor and one side of body of

device that plays the role of tightening touch each other, and the groove in the body of device that plays the role of tightening is formed on the sunglass lens so that it can come at a level that is at the eyes of the user.

This sunglass holder is comprised of clip for attachment and detachment so  
5 that body of connecting part(2) and body of device that plays the role of tightening(5) can be conjoined and separated. The following is a more detailed explanation.

In this sunglass holder, steel that connects female screw(3) is formed between body of connecting part and long hole needed for clipping. Body of connecting part and long hole needed for clipping are conjoined and gyrated by the steel that connects  
10 female screw. At the inside of the above mentioned steel that connects female screw, saw tooth wheels gyrate after interlinking, and lever for the connection of female screw(3-1) is formed to enable up and down angle adjustment. At the outer wall of the steel that connects female screw, saw tooth type of gear(3-3) is formed to make into a form that facilitates angle adjustment based on the interlinking of steel that connects  
15 female screw.

Figure 2 is the perspective drawing that shows the saw tooth type of gear that is formed at the outer wall of the steel that connects female screw.

This steel that connects female screw(3) is formed at the upper part of the body of connecting part(2) formed with groove in the connecting part(2-1) so that the lower  
20 part (4) of the long hole needed for clipping that is formed into male screw shaped anchor(4-1) that enables attachment and detachment from the body of device that plays

the role of tightening and one side of center's upper part of sunglass lens can be conjoined.

Up and down angle control is facilitated due to the mutual interlinking based on steel that connects female screw. Male screw shaped anchor(4-1) of the clip type  
5 that plays the role of conjoining and separating is made at the upper part of the long hole needed for clipping(4). At the inside of the body of device that plays the role of tightening(5), anchor is conjoined by forming anchor groove where the above mentioned male screw shaped anchor(4-1) is conjoined, and is made of stopper groove (4-3) where space is formed so that the stopper(4-2) that fixates and the stopper can be  
10 placed.

In particular, separation of body of connecting part, conjoined with sunglass lens(2) is enabled by pressing on the stopper(4-2), formed on body of device that plays the role of tightening(5) with thumb and index fingers and by separating male screw shaped anchor(4-1) formed at the upper part of the above mentioned long hole needed  
15 for clipping(4) from the body of device that plays the role of tightening. Once again, male screw shaped anchor(4-1) of the long hole needed for clipping(4) that is conjoined with body of connecting part is inserted into the anchor groove of body of device that plays the role of tightening. Clip for the attachment and detachment is built in, that is, function that plays the role of conjoining and locking based on the stopper(4-2) that is  
20 in the body of device that plays the role of tightening.

Figure 3(A)(B) is the plane surface view (A) and side view (B) in which the clip is built into the sunglass holder in accordance to this invention.

Figure 4(A)(B) is the plane surface view (A) and side view (B) in which the clip is built into the sunglass holder is separated from the sunglass older in accordance  
5 to this invention.

When it pertains to the sunglass holder with built-in clip for attachment and detachment, body of device that plays the role of tightening(5) should be made separately and attached onto the upper part of the hat's exterior. Body of connecting part, conjoined with sunglass lens should be separated from the body of device that  
10 plays the role of tightening of the sunglass holder that is attached on the lower part of the frontal part of hat's front visor to conjoin with the body of device that plays the role of tightening that is attached at the upper side of hat's exterior.

Figure 5 is the perspective drawing that shows the transformation of body of device that plays the role of tightening attached on the upper part of the hat's exterior  
15 by separating only the body of connecting part, conjoined with sunglass lens from the body of device that plays the role of tightening of sunglass holder, and the look in which the body of device that plays the role of tightening of sunglass holder is attached on the upper part of hat's exterior in accordance to this invention.

Figure 6 is the perspective drawing that shows the conjoining of the hat and  
20 sunglass lens into one by using sunglass holder with clip for attachment and detachment in accordance to this invention. Figure 6(A) is the view in which user

uses the sunglass lens in order to protect the eyes from the ultraviolet rays from sunlight when the user is wearing a hat. Figure 6(B) is the perspective drawing that shows that user is not using sunglass lens when wearing a hat by putting up the sunglass lens to the top.

5            Sunglass holder with built-in clip for attachment and detachment made with water can be made into sunglass holder of single unit sunglass holder that removed simple and attachment and detachment. This single unit sunglass holder is comprised of; body of connecting part that is formed with groove in the connecting part so that it conjoins with one side of center's upper part of sunglass lens, body of device that plays  
10 the role of tightening formed with groove in the body of device that plays the role of tightening so that it will conjoin with the one side of the frontal part's lower part of the hat's front visor, steel that connects female screw that formed to gyrate, and it also connects to the upper part of the body of connecting part to lower part of the conjoining part. The inside of this steel that connects female screw is formed into cylinder shape,  
15 connection pin that is fixated after putting it into the inside, and saw tooth type of gear that is formed in the outer wall of the steel that connects female screw that facilitated angle so that the body of connecting part from the body of device that plays the role of tightening would fit the user's eye level.

Figure 7(A) is the perspective drawing of single unit type sunglass holder  
20 without the attachment and detachment function. Figure 7(B) is the perspective

drawing of the sunglass holder that is conjoined after turning around merely the body of device that plays the role of tightening.

Sunglass holder with built-in clip for attachment and detachment can be applied onto ports type of hat (cap), sun cap, cowboy hat, beret, military helmet, hat, knit wool hat,  
5 hair band for jogging etc.

Figure 8(A)(B)(C) is the view in which the sunglass holder is applied onto the sunvisor(A), knit wool hat(B) and hair band for jogging(C).

Polypropylene, Polycarbonate(PC), Acrylic, ABS etc are used for the body of connecting part, body of device that plays the role of tightening and clip of the above  
10 mentioned sunglass holder. As for the lever for the connection of female screw, Polypropylene, Polycarbonate, Acrylic, Nickel, copper, steel etc are used.

### **[Effect of the Invention]**

When the effect of this invention is explained as follows,

15 Sunglass holder with built-in clip for attachment and detachment enables user to select, conjoin and separate hat(6) and sunglass lens(7) according to taste. When it comes to using sunglass, user can be free of the physical inconvenience in which the nose bridge and ears are sweaty due to the use of sunglass since there is no need for sunglass frame and legs. Moreover, it eliminated physical inconvenience caused by  
20 the weight of sunglass based on continual use of sunglass.

By conjoining hat and sunglass lens into one, it enables convenience of use. Furthermore, carrying and storing it is made easy, which in turn reduces the cost of having to purchase sunglass frame and legs.

When the user who was using the sunglass holder does not use it anymore,  
5 angle is adjusted by the saw tooth wheel type of gear that is formed on lever for the connection of female screw or the outer wall of the steel that connects female screw based on mutual interlinking. Then, it is turned over to the top, and is made to situate at the lower part of the hat's front visor. As such, it is possible to move while wearing the hat, and the sunglass holder with sunglass lens conjoined is fixed onto the hat to  
10 form into single unit. Thus, inconvenience of the hat and sunglass that is each distinguished is eliminated. In particular, body of connecting part, conjoined with sunglass lens is separated from the body of device that plays the role of tightening of sunglass holder according to the clip that attaches and detaches. Accordingly, user can use sunglass lens of diverse forms and colors. Moreover, this invention is  
15 invented in a way that is possible to use as fashion sunglass by conjoining to the new body of device that plays the role of tightening that is attached on the upper part of hat's outside.

Sunglass holder with built-in clip for attachment and detachment can be applied onto various types of hat (cap), sunvisor, cowboy hat, beret, military helmet, hat,  
20 knit wool hat, hair band for jogging etc. And it protects the eyes of user from

ultraviolet rays from sunlight, snow, rain and wind dust while presenting diverse ways to enjoy sunglass fashion.

**[Optimal Form for the Execution of the Invention]**

5 Sunglass holder(figure1) forms steel that connects female screw(3), lever for the connection of female screw(3-1), connection pin(3-2), and saw tooth wheel type of gear(3-3), formed at the outer wall of the steel that connects female screw between body of connecting part and body of device that plays the role of tightening to conjoin body of connecting part and body of device that plays the role of tightening. Location  
10 and up and down angle adjustment of body of connecting part, conjoined with sunglass lens from the body of device that plays the role of tightening that is conjoined onto the hat is enabled, and it is made to operate conveniently when the user does or does not use sunglass lens.

This sunglass holder is formed by having steel that connects female screw(3)  
15 project outward from between body of connecting part and long hole needed for clipping, and body of connecting part and long hole needed for clipping are conjoined and gyrated according to the steel that connects female screw. Lever for the connection of female screw(3-1) is formed inside the steel that connects female screw so that up and down angle adjustment is enabled while mutually gyrating saw tooth wheels. Saw  
20 tooth type of gear(3-3) is formed at the outer wall of the steel that connects female

screw, and it is also possible to make into a form that facilitates angle adjustment by the mutual interlinking of steel that connects female screw.

This steel that connects female screw(3) is each formed at the upper part of the body of connecting part(2) formed with groove in the connecting part(2-1) so that the lower part of the long hole needed for clipping(4) formed into male screw shaped anchor(4-1) that enables attachment and detachment from the body of device that plays the role of tightening and the one side of center's upper part of sunglass lens are conjoined. It is made in a way that the mutual interlinking and gyration are enabled by steel that connects female screw. Male screw shaped anchor(4-1) that is in the clip form of conjoining and separation is made at the upper part of the long hole needed for clipping(4). Anchor groove where the above mentioned male screw shaped anchor(4-1) is conjoined is formed at the inside of the body of device that plays the role of tightening(5). Stopper(4-2) that conjoins and fixes anchor and stopper groove(4-3) where space is formed to place stopper are made.

In particular, separation of body of connecting part, conjoined with sunglass lens(2) is enabled by pressing on the stopper(4-2), formed on body of device that plays the role of tightening(5) with thumb and index fingers and by separating male screw shaped anchor(4-1) formed at the upper part of the above mentioned long hole needed for clipping(4) from the body of device that plays the role of tightening. Once again, male screw shaped anchor(4-1) of the long hole needed for clipping(4) that is conjoined with body of connecting part is inserted into the anchor groove of body of device that

plays the role of tightening. Clip for the attachment and detachment is built in, that is, function that plays the role of conjoining and locking based on the stopper(4-2) that is in the body of device that plays the role of tightening.

## CLAIMS

### WHAT IS CLAIMED IS:

1. Sunglass holder with built-in clip for attachment and detachment characterized by the following when it relates to the sunglass holder with built-in clip for attachment and detachment that conjoins sunglass onto hat for use, and that enables storage, carrying and separation; it is comprised of body of connecting part(2), steel that connects female screw(3), lever for the connection of female screw(3-1), long hole needed for clipping(4) where male screw shaped anchor(4-1) is formed, and body of device that plays the role of tightening(5) where stopper(4-2) and stopper groove(4-3) are formed as one. Groove in the connecting part(2-1) is formed at the lower part of the body of connecting part so that it can conjoin with the groove formed onto the one side of center's upper part of sunglass lens. Steel that connects female screw is formed so that the area between the upper part of the above mentioned body of connecting part and the lower part of the long hole needed for clipping are interlinking into female screw for gyration to connect body of connecting part and long hole needed for clipping. Lever for the connection of female screw is installed so that up and down angle adjustment is enabled based on the mutual interlinking of saw tooth wheel inside the steel that connects female screw. Long hole needed for clipping and body of device that plays the role of tightening are attached and detached according to the stopper groove, stopper, anchor groove that is formed on the body of device that plays the role

of tightening, and anchor formed at the upper part of the above mentioned long hole needed for clipping. groove in the body of device that plays the role of tightening(5-1) is formed at the top of device that plays the role of tightening so that male screw for conjoining part(5-2) can be conjoined.

5 2. When it pertains to Claim 1,

Sunglass holder characterized by conjoining as single unit so that the body of connecting part and body of device that plays the role of tightening will not attach nor detach while steel that connects female screw is formed at the upper part of the body of connecting part and lower part of the body of device that plays the role of tightening  
10 and while conjoined and gyrating based on mutual interlinking.

3. When it pertains to Claim 1,

Sunglass holder with clip device that attaches and detaches and which is characterized by the formation of saw tooth wheel type of gear(3-3) at the outer wall of the steel that connects female screw by having connection pin(3-2) installed at the inside of steel that  
15 connects female screw so that area between body of connecting part and long hole needed for clipping are conjoined and gyrated.

4 When it pertains to Claim 1,

Sunglass holder that is characterized by the installation of connection pin(3-2) at the inside of the steel that connects female screw so that the part between body of  
20 connecting part and long hole needed for clipping is conjoined and gyrated. saw tooth wheel type of gear(3-3) is formed at the outer wall of the steel that connects female

screw, and it is conjoined in a single unit type so that the body of connecting part and body of device that plays the role of tightening will not attach or detach.

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DRAWINGS

Figure 1(A)

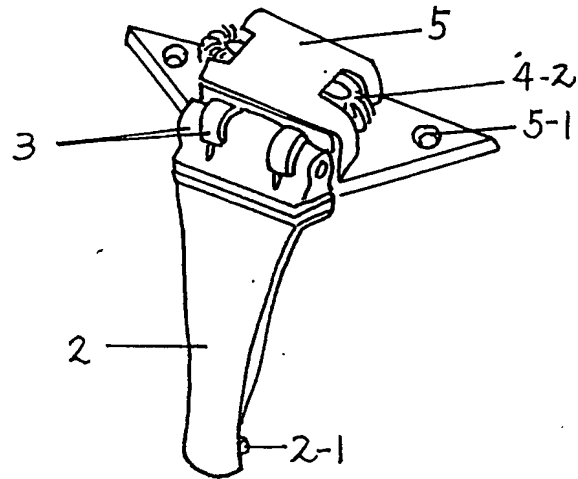


Figure 1(B)

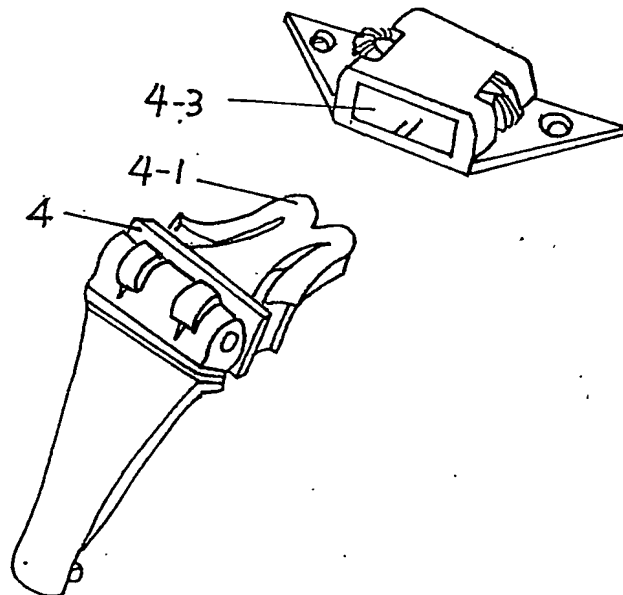


Figure 1

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DRAWINGS

Figure 2

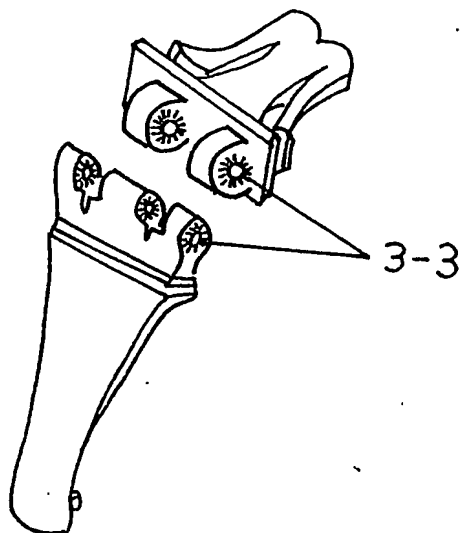


Figure 2

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DRAWINGS

Figure 3(A)

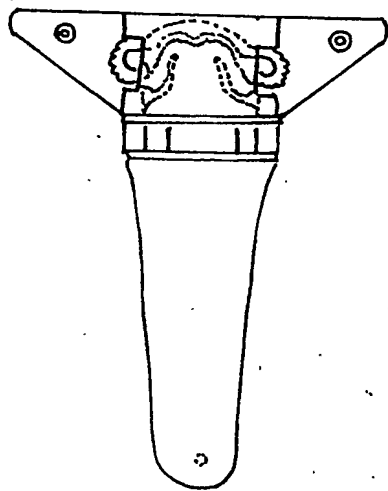


Figure 3(B)



Figure 3

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DRAWINGS

Figure 4(A)

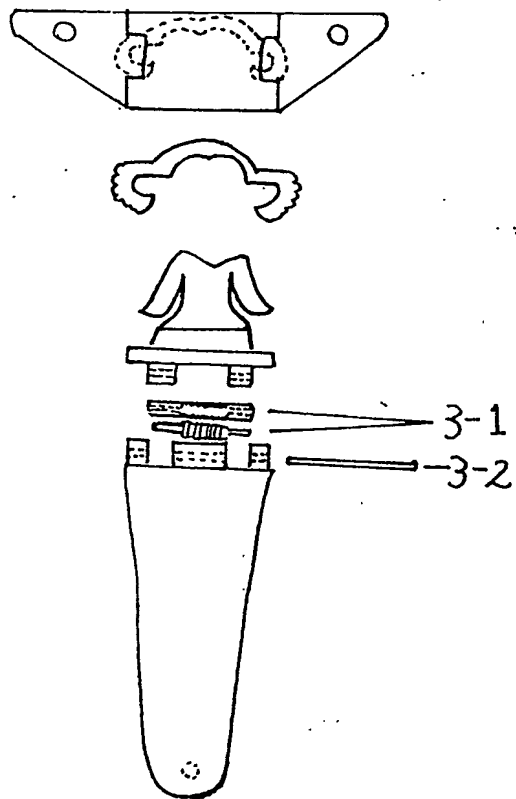


Figure 4(B)



Figure 4

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DRAWINGS

Figure 5

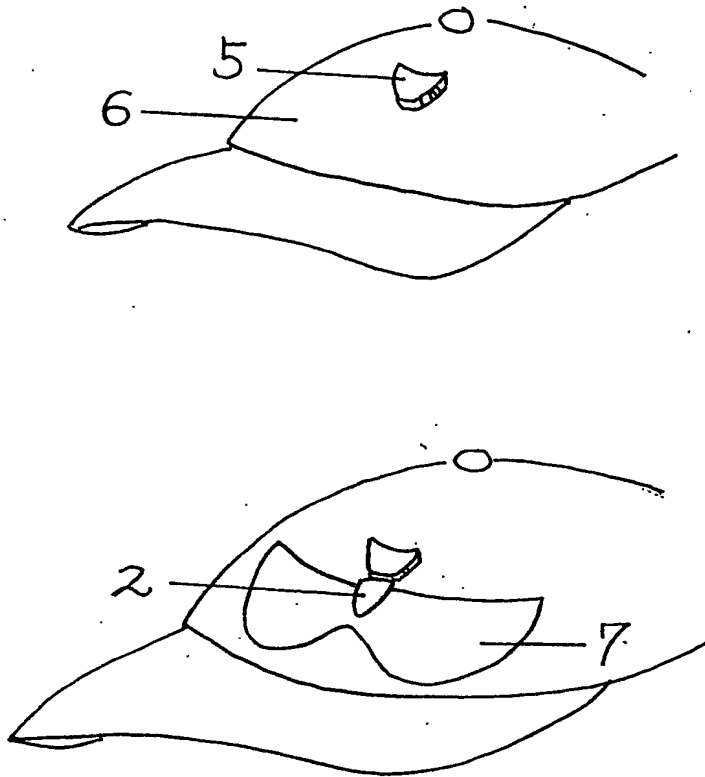


Figure 5

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DRAWINGS

Figure 6(A)

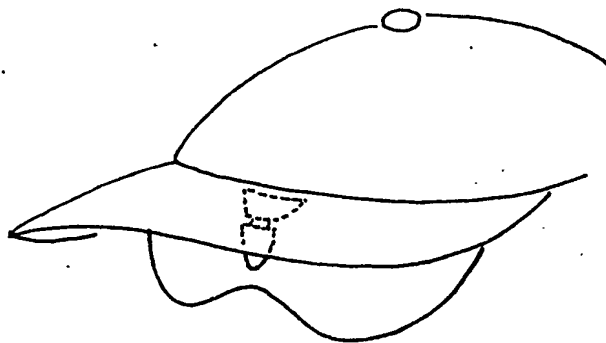


Figure 6(B)

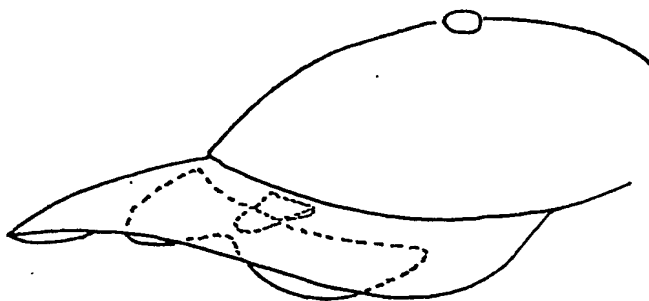


Figure 6

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DRAWINGS

Figure 7(A)

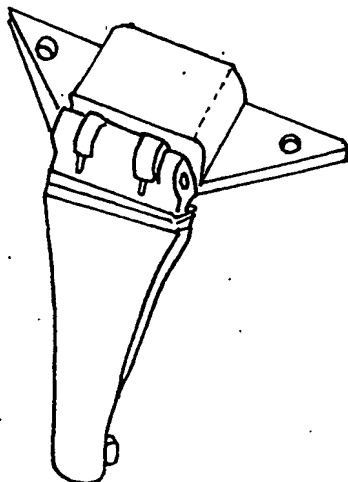


Figure 7(B)

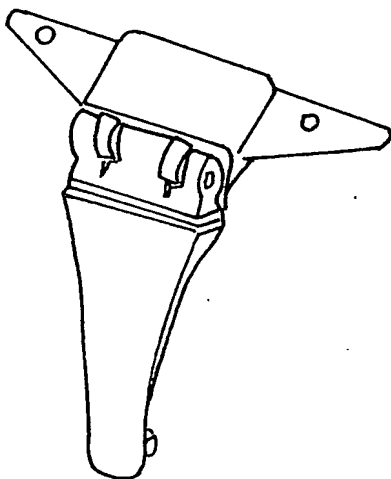


Figure 7

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DRAWINGS

Figure 8(A)

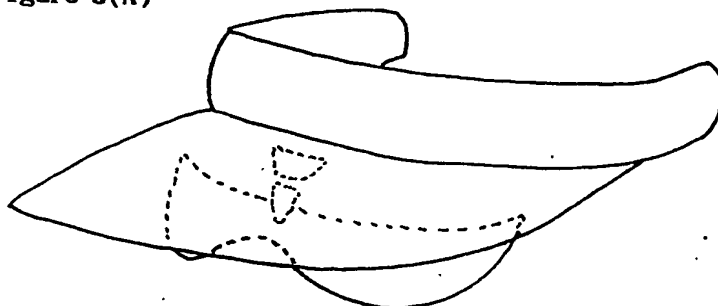


Figure 8(B)

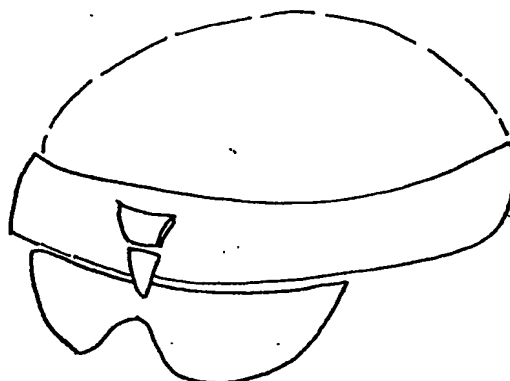


Figure 8(C)

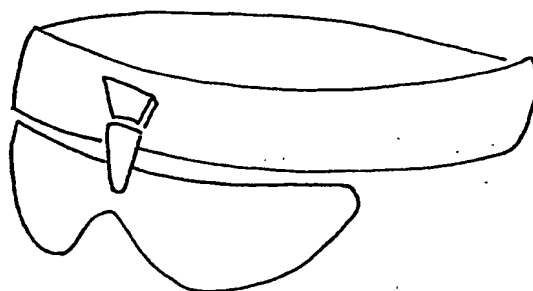


Figure 8

## INTERNATIONAL SEARCH REPORT

International application No.

R03/01290

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 G02C 9/04, A42B 1/24**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC7 G02C 9/04, 7/08, 7/10, 3/00, 1/00, A42B 1/24, 1/18, 1/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Patent and Applications for Inventions since 1947

Korean Utility Models and Applications for Utility Models since 1947

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KR 10-2002-0066148 A (Ko Myung Keun) 14 Aug. 2002	1
A	see Fig.1; page 2 line 33-page 3 line 11	2-3
	see the whole document	
A	JP 6-69232 U (Tai) 27 Sep. 1994	1-3
	see the whole document	
A	JP 58-92331 U (Shibamoto) 22 Jun. 1983	1-3
	see the whole document	
A	WO 95/30923 A1 (Cahill, Robert B.) 16 Nov. 1995	1-3
	see the whole document	

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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"&" document member of the same patent family


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